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AREATA IN AN ASYLUM FOR
GIRLS.

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WITH THE WRITER'S COMPLIMENTS

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TWO EPIDEMICS OF ALOPECIA AREATA IN AN ASYLUM FOR GIRLS.

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THE first of the two epidemics of alopecia to be discussed in this paper, was described by Dr. Chas. P. Putnam in a communication read before the American Pediatric Society in May, 1892, and published in the *Archives of Pediatrics* for August of the same year. As I was enabled, through the kindness of Dr. Putnam, to observe and to study closely this first epidemic, as well as a second epidemic of much the same character apparently, that broke out in the same institution six years later, I have thought it of interest to set before this Association the facts regarding the two epidemics, and the connection that could be traced between them.

The Asylum in question is situated near the center of Boston and its inmates are homeless girls between 3 and 14 years of age. In January, 1891, Ethel S., eleven years of age, was sent to Dr. Putnam on account of some bald areas that had appeared on her scalp, and a few weeks later I had an opportunity of seeing the case myself. This girl had lived in the asylum for eight years, and associated with no other children than those in the institution. Her general condition was good. When first seen, she presented three roundish patches of bald scalp on the crown of the head, two of them nearly an inch in diameter, and none of

them showing scales or broken hairs. Clinically it seemed to be a typical picture of alopecia areata, as we commonly see it.

Several weeks later, another girl, seven years of age, was found to have a perfectly smooth rounded patch of alopecia near the crown of the head, which increased rapidly, until it had become as large as a silver dollar. There were also several smaller patches of irregular and elongated shapes.

During the last week of May, four months after the affection had shown itself in Ethel S., the first one in whom the alopecia was noticed, it was suddenly found that a large number of the girls in the asylum were affected to a greater or less degree. At this time the hair of all the children was closely cut, as was the custom at that season of the year. The result was the discovery that 63 of the 69 girls in the institution had bald patches upon the scalp. It may be mentioned that at the time of the epidemic the general health and the nutrition of all the children was good.

At this time it was found that the areas in the first two cases had increased considerably, in spite of treatment. Ethel S. was the most extensively affected; one large area of baldness extended over a large part of the right occipital region. Besides such areas as we see in the ordinary sporadic cases of alopecia, there was in this case a diffused "patchy" appearance of baldness not unlike what is seen in syphilitic alopecia, except that the areas were more sharply outlined.

With regard to the epidemic as a whole, certain characteristics were apparent. In the first place, in a large number of the cases the spots of baldness were small and more irregular and angular than we are in the habit of seeing in alopecia areata of the ordinary type. When the patches increased in size, however, they assumed a more or less circular shape. In a number of children the whole scalp was dotted with these small irregular areas, so small that it sometimes required close observation to determine whether they were really bald areas. In one case, eighty bald areas were counted. It is to be emphasized, however, that although the presence of very numerous, small, and irregular patches was a characteristic of the epidemic as a whole, there were still many cases in which larger patches, in no way differing in appearance from ordinary alopecia areata, were also present, and some cases in which the latter form was the only one.

In a very few of the cases the skin of the bald areas was glistening and atrophic, and in one or two instances it was possible to feel a distinct depression with the finger. In no single instance were broken hairs or scaling detected, nor were any of the other clinical characteristics of tinea tricophytina apparent.

In spite of vigorous treatment the cases continued to get worse for about a month after the hair had been cut and the extent of the epidemic discovered. Some cases presented more numerous spots, and in others the individual areas had increased in size. One child, who had just entered the asylum, acquired a spot in *three days*, and several days later presented others.

At the end of about two months, the affection seemed to have come to a standstill and from that time on a gradual but steady improvement was noted, and at the end of six months, almost all of the areas were covered with hair. Some denuded areas were still left, however, and this especially in the case of the two girls first affected. The hair had grown in well over the areas in which a distinct atrophic condition existed.

Repeated examinations were made of the hair, taken from a great many of the cases, and from different parts of the same head. The roots of the hair immediately surrounding a bald patch were atrophic, but the medulla appeared normal. No trace of micro-organisms could be detected under various methods of staining.

There were four older girls who acted as officers, sleeping in the same rooms with the children at the time the epidemic was discovered. Neither they nor any adult inmate of the asylum became affected.

With regard to treatment, a number of different methods were tried on different children. It could not be determined that one method produced any better results than another.

Ethel S., the first case discovered in the epidemic that has been described, left the asylum in April, 1894, and was taken into a private family. It was impossible to determine definitely whether any bald patch existed at the time she left the institution, as the girl herself was careless and not particularly intelligent. It is certain, however, that if any such remained, it must have been very small, as all of the larger areas had filled in. It was found later that the husband of the woman with whom she went to live developed several bald patches of the scalp not very long after her coming to them. The hair grew again upon these areas without treatment.

In January, 1897, Ethel S. was readmitted to the institution. She was then seventeen years old. It is possible that some small area or areas may have existed at this time, although nothing was evident. In February or March, an area of baldness was noticed on the head of another girl. During the summer of that year, four or five months after Ethel S. had reentered the institution, it was found that twenty-six of the forty-five girls who then constituted the asylum had some bald area or areas on the scalp. Of these twenty-six, only four had

been inmates of the asylum at the time of the previous epidemic. Ethel S., at this time presented, as in the former epidemic, several large areas of complete baldness, not differing in type from the ordinary alopecia areata. In all the other twenty-five, however, the characteristics that have been referred to in the previous epidemic were very prominent. In the former epidemic a number of children showed the characteristic form of alopecia areata. In this epidemic, Ethel S. alone offered such appearances. In all of the others the lesions were small, dotted, irregular, elongated, with a cicatrical appearance in several instances. As before, there were none of the appearances of tinea tricophytina, and repeated examinations of the hairs revealed no parasite.

The treatment in this epidemic was washing with soap and solutions of corrosive sublimate, and the application of acetic acid in ether to the affected areas.

In September it was found that no new spots had appeared on any of the children and that many of the old ones were covered with hair. At this time Ethel S. was admitted to the Massachusetts General Hospital for the treatment of an affection about the knee-joint. At that time the size of the areas had diminished considerably, but there were still several distinctly denuded patches. From one of the patches that had appeared later than the others and that had not begun to show signs of a new growth, a piece was excised for microscopical examination. This patch presented macroscopically a slightly atrophic condition of the surface.

Microscopically, the most prominent feature was the great atrophy of the pilo-sebaceous follicles. The sebaceous glands were present in normal numbers, but their nuclei had in many instances disappeared from the cells, and sometimes the cells were merged together in a granular mass. In some cases the center of the gland was occupied by a cavity where the cells had fallen. The hair-follicles proper were greatly atrophied, and usually empty. In some places a portion of the hair-root remained, or a mass of horny matter. The sweat-glands were normal. The epithelial structures were otherwise unchanged. In the corium there was a moderate increase in the number of fibrous connective-tissue cells. There was a very slight enlargement of the superficial vessels, and a few leucocytes in their vicinity, mostly of the lymphoid variety. Large numbers of mast cells were found especially about the walls of the vessels. A comparison with a case of senile alopecia, showed that in the latter also, there was a great excess of mast cells. There were no plasma cells. The muscle fibers, which were pretty numerous, were unchanged. There was a slight evidence of

fibrosis or sclerosis about the vessels. All attempts to discover micro-organisms of any nature proved failures.

The result of the excision of this piece was a rapid growth of hair on the affected area, which had remained stationary for a considerable time previously. Two months later several new spots appeared. It was thought that they began with a small scaling papule about a hair-follicle, but it remained a question whether this was primary or the result of scratching. Examination of the hair even at this early stage was always negative.

In January, 1898, the school was examined again. Ethel S. had left the institution, and only one child presented a well-defined bald area. Recent enquiry elicits the information that there have been no later developments.

In April, 1899, it was learned that no bald areas remained on Ethel S.'s scalp and that the hair generally was thick and vigorous.

To summarize briefly: A girl of eleven years, who had lived for eight years in an asylum for girls, was discovered to have several spots of baldness differing in appearance in no way from ordinary alopecia areata. A few weeks later another girl in the asylum was found to be similarly affected. Four months later it was found that 63 of the 69 children in the institution were affected to a greater or less extent. As a whole, the epidemic was characterized by the small size and irregular, angular, and linear form of the bald areas; although in a small number of instances the larger areas usually seen in alopecia areata were present. At the end of two months the areas began to fill in and at the end of six months a few patches only could be found.

The girl in whom the affection was first observed left the institution and was away three years. It is not definitely known whether the hair had grown over all the bald areas or not, but it is not unlikely that some small areas had persisted. Six years after the first epidemic she reentered the institution, at the age of 17. There had been no cases of scalp affection in the asylum since the previous epidemic. A month or six weeks after her entrance spots of apparent alopecia areata were discovered on the head of one of the children, and four or five months after her return twenty-six of the forty-five children were found to have spots of baldness of the same small, dotted, and angular character as those of the first epidemic, areas in no way differing from those of alopecia areata as ordinarily seen.

I have thought it of sufficient interest to record these two epidemics with their connecting link, from the fact that such an experience has not been before encountered in this country, so far as I am aware. All are familiar with the numerous epidemics of a like nature described

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by Hardy, Besnier, Feulard, and other French dermatologists, as occurring in regiments, schools, fire-brigades, etc., which are placed in the category of the "pelades." Strangely enough these epidemics seem to have been pretty generally confined to France, and have not been observed in other countries. There can be no doubt, however, that the two epidemics that I have described belong in this same class, and it is at least a fair assumption that the etiology in all of these instances is the same. It is difficult to escape from the conclusion that such epidemics are caused by a more or less direct contagion. It is also more than probable that in the two epidemics I have described, the girl, who was apparently first affected, communicated the disease to others in the school. After leaving the institution, she may or may not have transmitted it to an adult with whom she lived. The patient was not seen and therefore the evidence is inconclusive. But as her return to the school was followed by another epidemic similar to the first, it is again more than probable that she had continued to be a source of infection.

It is not my purpose to discuss at any length the etiology of alopecia areata in general. This question was the topic of general discussion in this Association in 1892, and while the tropho-neurotic and parasitic theories each found their advocates, a considerable number of the members present expressed the belief that in some instances at least alopecia areata is a contagious affection. I know of no especial evidence that has been acquired since that time, to alter our opinions. Sabouraud has not proved that the disease is caused by his microbacillus, although his reasoning from the histological findings that some such agent *may* be active, is not without weight. I have called the two epidemics alopecia areata, as a number of the cases were indistinguishable from this disease as it commonly appears sporadically, and as the French "pelade," under which title the foreign epidemics have been described, is embraced under our term alopecia areata. It has been emphasized, however, that there were some features of these epidemics that differed from the cases commonly seen; *i. e.*, the small size, and jagged, angular outline of the bald areas. I find that Horand declares that in the epidemics among soldiers many of the spots are small and lenticular.

